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Today, hospitals in the United States are being besieged by a societal demand for quality in the delivery of health care. The Joint Commission on Accreditation of Hospitals (JCAH) has a requirement for a Quality Assurance (QA) Program. Figuring out a methodology to meet this requirement is left to the individual hospitals. In 1981, when visiting Womack Army Community Hospital, the JCAH Accreditation Team found a large number of weaknesses in the existing QA Program. That occurrence prompted this study which determined that a need existed for a centralized QA organization structure within a health care institution in order to meet JCAH standards. A QA Department and QA Coordinator would facilitate such a centralization of hospital wide efforts.

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ASSESSING THE NEED FOR AN ORGANIZATION STRUCTURE FOR QUALITY ASSURANCE WOMACK ARMY COMMUNITY HOSPITAL FORT BRAGG, NORTH CAROLINA

A Graduate Research Project
Submitted to the Faculty of
Baylor University
in Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Administration

By

Major Llewellyn E. Piper, MSC

August 1983

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I. INTRODUCTION

General

Today, hospitals in this country are being besieged by a societal demand for quality in the delivery of health care. Both consumers and regulatory agencies such as the Joint Commission on Accreditation of Hospitals (JCAH) are making an unrelentless effort to pass judgement on hospitals' evidence of providing quality health care. Most hospitals today invite the JCAH to visit for the purpose of obtaining accreditation to insure the community that the care provided is of the utmost quality. Thus, in an attempt to answer society's demand, hospitals are making as one of their primary efforts the ubiquitous assurance of quality.

However, the dilemma that is facing hospital administrators is how to meet the demands for what is often seen as a nebulous concept -- Quality Assurance. A hospital administrator of a 250 acute bed hospital in the Southeastern part of the United States stated that "the whole concept of Quality Assurance is like the fog -- you can see it but you cannot grab hold of it."[1] The staff at most hospitals accredited by JCAH recognize the requirement for a Quality Assurance (QA) Program. The problem is figuring out a methodology to meet the requirement. Administrators of hospitals are all too aware of the impact of not meeting the QA standard of JCAH. The impact of not meeting the standard is quoted below from the JCAH Accreditation Manual.

> The hospital shall demonstrate a consistent endeavor to deliver patient care that is optimal within available resources and consistent with achieveable goals. A major component in the application of this principle is the operation of a quality assurance program... The effectiveness of a hospital's quality assurance program shall be emphasized in determing a hospital's accreditation status.[2]

Brief Background of Womack Army Community Hospital

Womack Army Community Hospital (WACH) performs a vital role at Fort Bragg, North Carolina, in its medical service support mission to the soldiers and other beneficiaries. The present community population supported is over 200,000. The critical role that WACH plays in our nation's defense posture is without question. The majority of the over 50,000 soldiers assigned to Fort Bragg are part of the Rapid Deployment Force (RDF) which has a mission of deploying anywhere in the world at any time.

The population demand for health service at WACH is reflected in a work load in Fiscal Year 1982 of over 800,000 outpatient visits and over 67,000 inpatient days. In order to fulfill its mission, over 1200 personnel are assigned. WACH is a nine story structure, 247 acute bed hospital, expandable to 400 beds, that was built in 1958. It has 17 inpatient wards and 30 ambulatory patient clinics.

As a means of not only insuring quality of care, but to provide evidence to the public that Army health care institutions strive toward excellence, the United States Army Surgeon General mandates accreditation

by the Joint Commission of Accreditation of Hospitals (JCAH). Of utmost importance to any health care institution's accreditation status, is the effectiveness of its QA Program. The JCAH standard on QA requires evidence of a well-defined, organized program designed to enhance patient care and to correct identified problems. The lack of specific guidance on how the organization may obtain a viable QA program established the focal point for this research. The purpose of this research is to determine the need for an organization structure to meet JCAH requirements of QA.

Conditions Which Prompted the Study

The JCAH Accreditation visit in 1981 found a large number of weaknesses in the present QA program. Even though the QA plan was sound in defining the responsibility and essential components of QA, an on-going, viable, hospital-wide program was not evident. The Commander and Executive Officer of WACH are concerned that the present QA program, which functions by the committee process, is ineffective in insuring the mechanism to identify, resolve, document, and monitor problems in a systematic manner. Based on observations during the resident rotation, there is a lack of knowledge and motivation by the staff to support QA. Continued turnover of personnel mandates an extensive analysis of maintaining a hospital-wide QA program. An interview with the Chief of Professional Services revealed concern as to the effectiveness of

a committee process in insuring a viable QA program. The weaknesses noted by JCAH in 1981 during the accreditation are not being corrected by the present QA program. It is felt by the Commander and the Executive Officer that a different methodology must be established in order to meet JCAH's accreditation QA standard during the accreditation visit in 1983.

Statement of the Problem

The problem is to determine the need for a Quality Assurance organization structure within the health care institutions to meet JCAH quality assurance standards.

Objectives

1. To research and study the current literature relative to quality assurance.
2. To analyze the current quality assurance program at WACH.
3. To study current literature on organizational theory and concepts.
4. To study JCAH quality assurance standards.
5. To determine the need for a quality assurance structure in a hospital based on the use of questionnaires to hospital staff and to Chief Executive Officers (CEO) of hospitals in the United States.

Limitations

Based on budgetary restraints, any proposed increase in money and personnel cannot be allocated in Fiscal Year 1983 to support proposed recommendations from this research. Only hospitals accredited by JCAH will be surveyed. The hospitals of interest are 200-400 acute bed facilities. This limitation is established due to lack of resources to survey all 7,000 hospitals in the United States.

Literature Review

Quality Assurance - Philosophy/History

Philosophy. From the days of the writing of the oath of Hippocrates, mankind has looked toward medicine with a sacred trust. A trust that philosophied an assurance to both consumers and providers that quality will be practiced in the art of medicine. The quote below from the oath of Hippocrates is evidence of this duty by practitioners of medicine:

> With purity and holiness I will pass my life and practice my art...I will impart the knowledge of the art to my own sons, and those of my teachers, and to disciples bound by a stipulation and oath according to the law of medicine.[3]

This individual responsibility of practitioners of medicine has transcended to overall responsibility of quality assurance by the health care system and by the health care institutions. There are many reasons that have brought about the requirement for an effective quality assurance program for health care institutions. Such factors as an increase in consumer knowledge, increase in consumer expectations, increase in malpractice

cases and the growing complexity of the multi-disciplinary health care system are just a few. The quote below best describes the evolution from not only the individual practitioner responsibility but to health care institutions as well.

> The advances of medicine in the Twentieth Century have provided mankind with the capability to cure many diseases and control the course of others. This capability has changed the right of access to quality medical services from a luxury to a utilitarian necessity in today's world. It has given society as a group and the community as individuals a justifiable role in determining how, when, where, and what medical services should be delivered. Further, it has given the patient who receives the care and those who purchase care for him a right to the assurance that the care is of optimal quality.[4]

Since the 1960s, interest in the quality of health care and medical care has been increasing among providers, third party payers, health care recipients, and the public at large. This interest has been stimulated by a variety of political, economic, social, and legal pressures. The concern has grown despite our limited ability to define quality, to assess accurately the quality of medical care, and to effect the behavioral changes needed to assure quality.[5]

Today, the health care institutions accredited by the Joint Commission on Accreditation of Hospitals must establish an effective and efficient quality assurance program. This endeavor provides evidence of the continual spirit of the sacred trust philosophied since the writing of the oath of Hippocrates.

History

Throughout the recorded history of medicine, there has been documented evidence of the concern for quality in the delivery of health care. One of the most noted endeavors of Hippocrates was his concern for ethics and professionalism in the art of medicine by practitioners. However, the emphasis has evolved from self-regulation to external regulation, with federal policy mandating optimal care within available resources.

Several other individuals in recent history who have stressed the importance of quality assurance in health care are Florence Nightingale, Dr. Abraham Flexner, Dr. Codman, and Dr. Donabedian. Florence Nightingale helped to lay the groundwork for quality assurance programs in the 1860s by advocating a uniform system for collecting and evaluating hospital statistics. Her data showed that mortality rates varied significantly from hospital to hospital. Dr. Flexner is noted for his famous 1910 report on the poor quality of medical education in the United States medical schools. Dr. Codman is known as a pioneer in quality assessment in his studies of the end results of health care. Several issues he emphasized in 1916 are important today in evaluating the quality of care. Some of these issues were licensure or certification of providers, accreditation of institutions, and economic barriers in receiving care. Dr. Donabedian is noted for his scientific approach to assessing quality of care in a systems perspective of looking at structure, process, and outcome.[6]

Other evidences of the concern for quality of health care are reflected in the formation and resulting activities of organizations such as the American College of Surgeons and the Joint Commission on Accreditation of Hospitals (JCAH).

In 1913, the American College of Surgeons was established with the improvement of patient care in the hospitals as one of its explicit goals. It inaugurated the Hospital Standardization Program (1918) in which the concept of hospital accreditation was put forth as a formal means of assuring good hospital care. The results of the first survey indicated severe problems; of the 692 hospitals surveyed, only 90 (13 percent) were approved. The college's program continued until the early 1950s.

With the general recognition of the success of the college's program of accreditation, it soon became clear that the approval programs should be supported by the whole medical and hospital field. Accordingly, in 1952, the JCAH was established to take over from the American College of Surgeons the responsibility for the accreditation program. The purpose of the JCAH was to encourage voluntary attainment of uniformly high standards of institutional care in all areas. In 1955, the JCAH began to stress the concept of medical audits. In 1974, it was decreed that hospitals must have an acceptable medical audit. In January 1981, the JCAH implemented a new Quality Assessment Standard. Over the years, hospitals have had separate mortality, tissue, transfusion, medical record, and antibiotic committees. The new JCAH standard requires that all of these activities

(plus the delineation of privileges, incident reports, and the monitoring of clinical practice of all personnel) be integrated into a single audit system. The intent of the new JCAH standard is to assist hospitals in implementing an overall program to assure the delivery of optimal patient care. The new JCAH standard requires that every hospital have a written quality assurance program. In addition, all committee functions or activities concerned with quality assurance are to be integrated or coordinated so that duplication can be avoided and existing data may be fully utilized.[7]

In the courts, major precedents that directly relate to quality of care have been established. In the Darling v. Charleston Memorial Hospital (1965) and in the Gonzales v. Nork and Mercy Hospital (1966) cases, it was held that hospitals and their medical staffs have the right and obligation to oversee the quality of professional services rendered by individual staff members. In the Darling case, under the theory of corporate liability, the Charleston Community Memorial Hospital was held to be liable independently for its own negligence in connection with the negligence of a physician practicing in the hospital. This theory holds that a hospital, because it has the authority to regulate the practice of medicine, has a legal duty to do so. A breach of this duty can constitute negligence independent of that of a physicain who practices in the hospital. Thus, quality of care has become an institutional concern.

Organization Theory

From a review of the literature, there are only slight differences in the way in which various theorists conceptually view organizations. Stogdill defines the organization as a structured system or behavior, with the position and roles accompanying it having the potential of being prestructured, that is designed and prescribed before the roles are filled by actors. [8] Thompson characterizes an organization as a highly rationalized impersonal integration of a large number of specialists operating to achieve some objective, upon which is superimposed a highly elaborate structure of authority.[9] Barnard sees an organization as a system of consciously coordinated personal activities or forces, a system of interrelated activities.[10] Davis views an organization as groups of people working together to accomplish an objective.[11]

Henry Tosi in his research of organization theory has discovered five generic characteristics of organization. These five characteristics explained by Tosi are discussed below:[12]

> 1. Large size is an implicit characteristic. In general, organizations treated in theory are of such a size that within them it is extremely difficult, if not impossible, to maintain close interpersonal relationships with a large number of the members, relative to the total membership.
>
> 2. Formalization derives partially from the large size of the organization and the need for some kind of control structure. Formalization simply means that procedures and policies are written and stated in such a way that they become stable, quasi-permanent directions, ranging from very general to very specific,

for interaction and decisions. It provides a degree of stability to interaction patterns, regardless of the incumbent of the position in the organization

3. Rationality is another attribute sought by large organizations. The purpose of imposing a structure is to bring order to a system of activities intended to achieve a goal. The system should be ordered on the basis of "logic and science." The activities of the members should be directed toward the goal. If activities are goal-directed, then resources can be more effectively utilized. Rationality is partially achieved by "goal factoring." The organization has a general goal. This goal is factored, or broken down into subgoals. These are assigned to lower-level units. If these units achieve their purpose or goal, the general organization goal will be attained. Individuals in lower-level units essentially "assume" the goal of the unit when they accept a position. In addition to the obligation, an incumbent will have certain prerogatives to allocate organization resources to accomplish these subunit goals. These prerogatives are often called "authority."

4. Hierarchial structure is therefore related to the nature of the factored goals. Hierarchy is the existence of different degrees of authority at various levels of the organization. It is the chain of formal authority relationships from the top of the structure to its bottom, tying different levels of the organization together. The degree of authority at a particular level may be defined in terms of the range of discretion an individual has over resource allocation, both physical and human. In general, individuals in higher positions tend to have greater discretion and are accorded more status and deference than those at lower levels. It is through the authority structure that the various activities of the organization are tied together in order to achieve some degree of coordination in attaining goals.

> 5. Specialization is another dimension of the complex organization. Specialization refers to the particular grouping or configuration of activities performed by an individual. The range of activities assigned to a particular position, or individual, should be "rationally" grouped in such a way as to make sense in terms of effectiveness and efficiency. Specialization may be one of two types. First it may refer to the division of labor. The particular task is analyzed and broken down into subtasks, which are its primary components. An individual then is assigned to perform these subtasks, which are essentially simpler and more repetitive than the total task requirements required to achieve a result. The individual is able to learn the tasks quickly and also its concommitant skills.

Based on organization theory, the hospital is without question an organization and as such requires both leadership and management to exist. Peter F. Drucker states that an organization exists for a specific purpose and mission, a specific social function.[13] The hospital as an organization is no different and based on the value system of our society, it has a great social responsibility. Kerr White describes the social contract that exists between health care and society and if the provision of health care does not meet perceived needs of society, then the present system will no longer be allowed to exist.[14]

Of paramount concern today within health care organizations is meeting the social demand and social responsibility toward the provision of quality in the delivery of health care. The milieu surrounding hospitals today is quality assurance and meeting this need within the organization.

Structure

Drucker states that structure is a means for attaining the objectives of an institution. Any work on structure must, therefore, start with objectives and strategy. Structure follows strategy. Effective structure is the design that makes possible the achievement of objectives and purpose of the organization.[15] Therefore, for the hospital as an organization to meet its purpose and social responsibilities, strategic planning for structural design is required.

Structure, very simply, is the establishment of a pattern of relationships among the components or parts of the organization. Structure is the result of explicit decision making and is prescriptive in nature. It is a blueprint of the way activities should be related. Typically, it is represented by a printed chart and is set forth in organization manuals, position descriptions, and other formalized documents. It is a general framework and delineates certain prescribed functions and responsibilities and the relationships among them.[16]

For the purpose of this research, an organization structure as described by Koontz, O'Donnel, and Weichrich, is a functional element, consisting of either a person or group of persons, such as a department or branch, that has been designated to meet and accomplish organizational goals and objectives.[17] For this research, a person performing the organizational duties of QA is called a QA Coordinator. A group of persons under one office performing these duties is called a QA Department.

RESEARCH METHODOLOGY

Surveys

In order to determine the need for an organization structure within a 200-400 acute bed hospital, two surveys were conducted. The staff at WACH was surveyed by use of a questionnaire. The purpose of the staff survey was to assess the staff perceptions and knowledge about quality assurance. A copy of the staff questionnaire is provided in Appendix A. The second questionnaire, provided in Appendix B, was used to gain knowledge from Chief Executive Officers of hospitals in regards to their QA Program and their perceptions and plans for meeting the future needs of quality assurance.

The population surveyed at WACH was divided into four categories. The categories consisted of physicians, registered nurses, allied health officers, and administrative officers and senior enlisted administrative personnel.

All hospitals in the United States with 200-400 acute operating beds accredited by JCAH were surveyed. Sample size determination for both surveys was obtained by using the formula in Figure 1 as explained by Daniel, and Krejcie and Morgan.[18]

$$N = \frac{NZ^2pq}{d^2(N-1)+Z^2q}$$

WHERE:
- n - sample size to be determined
- N - finite population correction
- Z - level of confidence
- d - width of interval
- p - proportion in population possessing characteristic of interest
- q - 1-p

Figure 1. Sample Size Determination Formula for Surveys Conducted.

Chi Square Analysis

Chi Square Analysis was used as the quantitative technique to analyze the survey results. The 95 percent level of confidence was used to test the null hypothesis of homogeneity.

Decision Flow Model

Assessment of the present QA program at WACH was conducted by use of JCAH standards and knowledge gained from surveying other accredited hospitals of similar size in the United States. A model showing the flow diagram of the decision process based upon need assessment is provided in Figure 2 below.

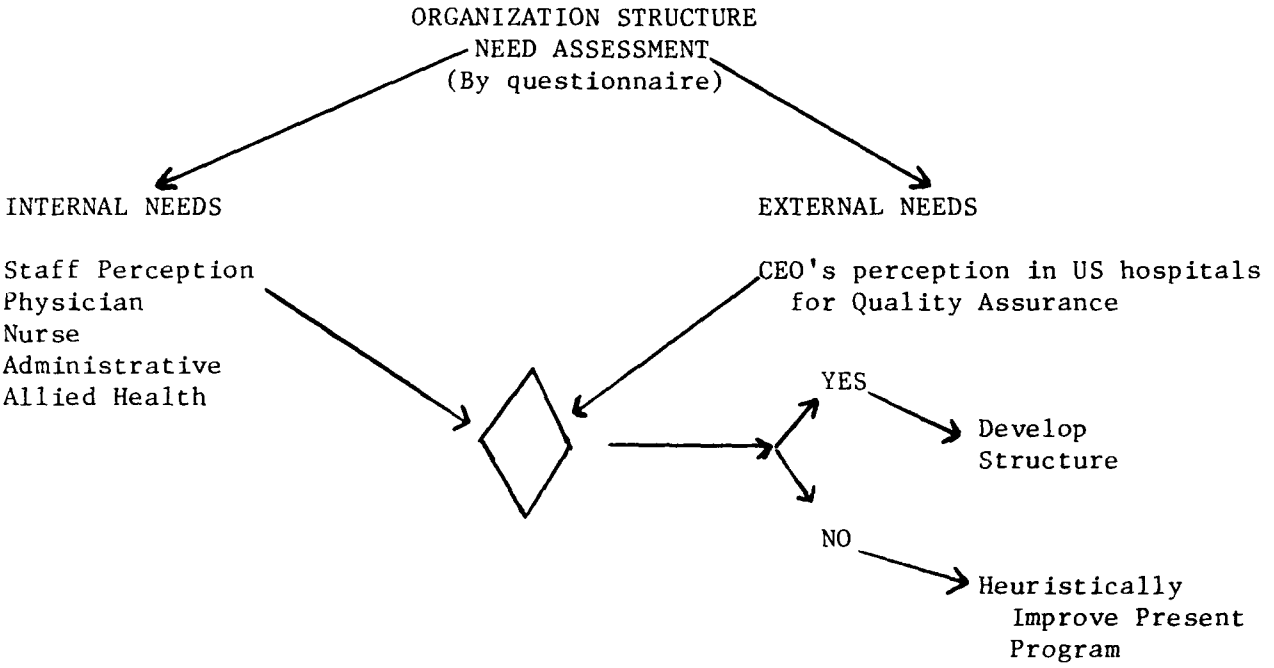

Figure 2. Decision Flow Model for Assessing Organization Structure.

FOOTNOTES

FOOTNOTES

[1]Hiscott, Donald, CEO, Southeastern General Hospital, Lumberton, NC, Interview on Quality Assurance, January 1983

[2]Quality Assurance Standard, Accreditation Manual for Hospitals, Chicago: Joint Commission on Accreditation of Hospitals, 1983, pp 151-154

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II. DISCUSSION

Current Quality Assurance Program at Womack

The current quality assurance program at WACH is managed by the committee process. The hospital quality assurance committee is titled the Medical Care Evaluation Committee (MCE). The MCE committee meets monthly and is chaired by the Chief of Professional Services. Members of the committee by position title are provided in Table 1.

Table 1
Members of the WACH
Medical Care Evaluation Committee

Chief, Professional Services, (Chairman)
Chief, Acute Minor Illness Clinic/Emergency Room
Chief, Department of Surgery
Executive Officer
Chief, Department of Nursing
Chief, Department of Primary Care & Community Medicine
Chief, Patient Administration Division
Representative, Allied Health Committee
Chief, Clinical Support Division
Chief, Department of Pathology
Representative, Urology Service
Chief, General Surgery Service
Quality Assurance Nurse, Representative, Chief Nurse
Chief, Department of Radiology
Chief, Preventive Medicine Activity
Chief, Social Work Service
Representative, Department of Family Practice
Representative, Department of Pediatrics
Chief, Department of Dentistry
Chief, Pharmacy Service
Chief, EENT Service
Recorder, Patient Administration Division

During the month and prior to the hospital MCE monthly meeting, each patient care department and patient service conducts an internal MCE monthly meeting. Problems and issues related to quality assurance developed

during these meetings are required to be presented to the hosptial MCE. During the hospital MCE, each member is given a packet of minutes of all the other departmental service minutes to review during the committee process. Reviewing and studying the data is rather time consuming and the MCE process usually results in a very hastily conducted review of the quality of patient care. Many department chiefs indicate frustration due to overwhelming amounts of data to review during the committee process. Little time can be devoted to decision making by carefully analyzing quality assurance problems.

Presently, no one individual is devoted to the Quality Assurance Program (QAP). All departmental and service minutes are forwarded to the Chief of Professional Service secretary for duplication and distribution into committee member packets for the monthly MCE meeting. Each member receives his packet of minutes usually the day before or on the day of the MCE, with little or no time to review the minutes before the meeting.

The routine method of viewing quality of care is by departmental audits of medical records for a designated category of disease or illness. Established criteria at departmental level are used. Results of the audits are recorded in the minutes.

Donabedian's approach to the assessment of quality of care is the examination of three components in the system analysis methodology. This system methodology involves the examination of (1) structure,

(2) process, and (3) outcome. Structure refers to the resources used in the provision of care and to the more stable arrangements under which care is produced. Process refers to the activities that constitute care. Outcomes are the consequences to health that were a result of the care provided or not provided.[1]

In regards to Donabedian's expert knowledge in the field of quality assurance, the current quality assurance program at WACH, in terms of the three system components, is provided in Table 2 below.

Table 2.
Current WACH QA Program in Terms
of System Components

STRUCTURE	PROCESS	OUTCOMES
Credentialing Committee	MCE -- Departments/Services Procedures & Criteria	MCE Incident Reports Patient Assistance

All three components are managed by a committee process that meets monthly. The daily ongoing activities are handled in response to incident reports which go to the Chief of Professional Service and/or patient complaints to the patient assistance representative (ombudsman). No one individual or functional area of the organization has the responsibility and authority to assess, monitor, and document the issues of quality assurance.

The JCAH Accreditation Manual states five essential components of a sound quality assurance program. However, the manual does not describe how to achieve and manage a sound quality assurance program. The five essential components listed below are from the JCAH Accreditation Manual.[2]

> 1. Identification of potential problems, or related concerns, in the care of patients.
>
> 2. Objective assessment of the cause and scope of problems or concerns, including the determination of priorities for both investigating and resolving problems. Ordinarily, priorities shall be related to the degree of impact on patient care that can be expected if the problem remains unresolved.
>
> 3. Implementation by appropriate individuals or through designated mechanisms of decisions or actions that are designed to eliminate, insofar as possible, identified problems.
>
> 4. Monitoring activities designed to assure that the desired result has been achieved and sustained.
>
> 5. Documentation that reasonably substantiates the effectiveness of the overall program to enhance patient care and to assure sound clinical performance.

Staff Survey - Sampling Procedure

The survey instrument was pilot tested in two different iterations to obtain an instrument of validity and reliability. The instrument was tested on two occasions by being conducted on 25 officers chosen at random. These officers were asked to not only answer the questionnaire, but to circle and comment on any question that lacked clarity

and/or created doubt as to what the question meant. These officers were also asked to write comments on the general impression of the survey instrument, such as too long, useless in nature, etc.. The survey was revised to accommodate recommended changes by the pilot study groups. The pilot studies proved useful in shortening the survey instrument, reducing redundant questions, rewording questions for better understanding, and reducing ambiguity in the questions.

To insure a large return rate, a survey was provided to staff personnel who represented the four professions of interest: (1) the physician, (2) the nurse, (3) the administrative, and (4) the allied health. To insure everyone in the population of interest received the information for support in filling out the survey, a notice was printed in the hospital weekly bulletin for two consecutive weeks before the survey. Also, a disposition form (DF) was sent to each department and service chief requesting support. All staff personnel were given a DF with information about the survey along with the survey. All departments and services were briefed about the need to contribute to the survey in order to assist in improving the hospital quality assurance. The surveys were required to be completed in two weeks.

Staff Survey Return Rates

The return rates for the staff survey are provided in Table 3. The return rates exceeded the numbers required by the formula in Figure 1 for sample size determination.

Table 3.
Staff Survey Return Rates

STAFF CATEGORY	ASSIGNED	SURVEYS RETURNED	SURVEYS REQUIRED	PERCENTAGE RETURNED
Physician	84	56	54	66.7
Nurses	120	73	60	60.3
Administrative	130	89	66	68.5
Allied Health	95	60	48	63.2
TOTALS	429	278	228	64.8

Staff Survey Results - Statistical Analysis

The overall survey results and percentages are provided in Table 4 below:

Table 4.
Overall WACH Staff Survey Results on QA

1. Physician - 20.14%
   Nurse - 26.26%
   Admin - 32.01%
   Allied Health - 21.59%
2. JCAH YES - 37.77% NO - 62.23%
3. QA Plan YES - 32.25% NO - 64.75%
4. Seminar YES - 16.55% NO - 84.17%
5. Communication Gaps YES - 58.27% NO - 9.35% DON'T KNOW 32.37%
6. Staff Willingness DISAGREE - 15.10% AGREE - 84.85%
7. QAP Identified Problems YES - 30.57% NO -28.06% DON'T KNOW - 32.37%
8. Patient Complaint Not Valid DISAGREE - 68.34% AGREE - 31.65%

9. Incident Reporting Effective DISAGREE - 33.45% AGREE - 66.54%
10. Many Incidents Unreported YES - 49.20% NO - 6.11% DON'T KNOW - 44.60%
11. QA Department - 49.64% QA Coord - 38.12% No Change - 12.23%
12. Biggest Problem COMMUNICATION - 24.10% STAFF - 50.00% MGMT - 25.89%
13. QA Means STANDARDS - 42.80% MGMT - 37.76% DON'T KNOW - 19.42%
14. Physicians Time to Audit DISAGREE - 52.52% AGREE - 47.48%
15. QA Needed DISAGREE - 10.43% AGREE -89.57%
16. Quality of Care POOR - 2.87% FAIR - 24.10% GOOD - 62.59% EXCELLENT - 10.43%
17. Useless to Bring Problems DISAGREE - 76.98% AGREE - 23.02%
18. Job Performance YES - 60.43% NO - 39.57%

Even though eighteen questions were asked, only four questions (questions 4, 7, 11, & 15) were considered critical in assessing staff awareness and perception about the need for an organization structure to meet the requirements of a sound quality assurance program. The other questions were asked to gain general information about staff perceptions and to blind the surveyee as to the purpose of the survey. This was done in an attempt to reduce biased responses and to provide better validity of the staff survey. This was done as a result of recommendations from the pilot study.

The Chi Square distribution was used to test the null hypothesis that each category of staff personnel (physician, nurse, administrative, and allied health) was homogeneous when applied to the same select survey

questions. Contingency tables were devised to test the hypothesis. Contingency tables of all questions are provided in Appendix E. Appendix F is provided for the analysis of questions 4, 7, 11, and 15. Tables 5-8 provide information on the four critical questions.

Table 5 provides analysis of question four which reflects that all staff categories are homogeneous in level of awareness of QA in regards to attending a seminar on QA. Table 6 shows that the staff is heterogeneous toward perception of the effectiveness of the present QA program. The staff is homogeneous toward the need for an organization structure for QA. This information is provided in Table 7. Table 8 shows that the staff is also homogeneous for the need of a QA program at WACH.

TABLE 5
CHI-SQUARE ANALYSIS
STAFF CATEGORY AND THE ATTENDANCE OF A
QUALITY ASSURANCE SEMINAR (AWARENESS LEVEL)

I	J	OBSERVED	EXPECTED	CHI-SQUARE
1	1	10	9.3	0.053
1	2	46	46.7	0.010
2	1	18	12.1	2.88
2	2	55	60.9	0.581
3	1	10	14.7	1.503
3	2	79	74.3	0.297
4	1	8	9.9	0.365
4	2	52	50.1	0.072

Chi-Square Statistic for 3 Degree of Freedom: 5.76

Chi-Square Critical Value: 7.815

Conclusion: Staff Homogeneous

TABLE 6
CHI-SQUARE ANALYSIS
CATEGORY OF STAFF AND PERCEIVED EFFECTIVENESS OF
QUALITY ASSURANCE PROGRAM

I	U	OBSERVED	EXPECTED	CHI-SQUARE
1	1	22	17.1	1.404
1	2	2	5.2	1.969
1	3	32	33.7	0.0858
2	1	29	22.3	2.013
2	2	13	6.8	5.653
2	3	32	43.9	3.226
3	1	20	27.2	1.906
3	2	5	8.3	1.312
3	3	64	53.5	0.196
4	1	14	18.3	1.010
4	2	7	5.6	0.351
4	3	39	36	0.250

Chi-Square Statistic for 6 Degrees of Freedom: 19.36

Chi-Square Critical Value: 12.592

Conclusion: Heterogeneous group

TABLE 7
CHI-SQUARE ANALYSIS
CATEGORY OF STAFF AND NEED FOR ORGANIZATION STRUCTURE
FOR QUALITY ASSURANCE PROGRAM

I	J	OBSERVED	EXPECTED	CHI-SQUARE
1	1	18	27.8	3.454
1	2	28	21.4	2.035
1	3	10	6.8	1.506
2	1	41	36.2	0.636
2	2	26	27.8	0.116
2	3	6	8.9	0.945
3	1	49	44.2	0.521
3	2	32	33.9	0.106
3	3	8	10.9	0.772
4	1	30	29.8	0.001
4	2	20	22.9	0.367
4	3	10	7.3	0.998

Chi-Square Statistic for 6 Degrees of Freedom: 11.453

Chi-Square Critical Value: 12.592

Conclusion: Homogeneous group

TABLE 8
CHI-SQUARE ANALYSIS
STAFF CATEGORY AND PERCEIVED NEED FOR QA PROGRAM

I	J	OBSERVED	EXPECTED	CHI-SQUARE
1	1	8	5.8	0.834
1	2	48	50.2	0.096
2	1	10	7.6	0.758
2	2	63	65.4	0.088
3	1	7	9.3	0.056
3	2	82	79.8	0.061
4	1	4	5.8	0.558
4	2	56	50.2	0.671

Chi-Square Statistic for 3 Degrees of Freedom: 3.633

Chi-Square Critical Value: 7.815

Conclusion: Groups are homogeneous

Staff Survey Results - Interpretation

The percentage of staff participation was generally equal in terms of the total number of responses, with physicians being the least (20.14%) and administrative being the most (32.01%).

Level of Staff Awareness

A large number of staff members has not read the JCAH standard on QA (62.23%) or the hospital quality assurance plan (54.75%). A large number of the staff (84.17%) has not attended any training or class seminars on QA. Based on the survey results, the level of staff awareness to QA is remarkably low. Another indicator of the lack of awareness of the QA program is that 60.43% of the staff do not know if the QA program is effective or not.

Need for Change in Organization Structure

The staff indicated a need for a quality assurance department. The results show that nearly 50% of the staff feel the need for a QA department. 38.12% feel a need for a QA coordinator, and only 12.23% feel that no change is needed. Thus, 12.23% of the staff see the need for the committee process versus 88% who feel a need for some type of organization structure, either a QA coordinator or a QA department.

Nationwide Survey - Sampling Procedure

The nationwide survey instrument was pilot tested via telephone interviews with hospital Chief Executive Officers (Administrators) throughout the United States. More specifically, five administrators

of hospitals in the four geographic regions of the United States (Northeast, Southeast, Southwest, and Northwest) were interviewed reference what they were doing in the area of quality assurance and what their plans were for the next five years towards quality assurance. Also, five administrators within Fayetteville, North Carolina, were personally interviewed.[3]

From this pilot study, it was learned that the survey instrument should be as simple as possible and contain as few questions as possible. This recommendation was made due to the magnitude of studies and various interpretations administrators in the country may have toward quality assurance. The survey instrument used is provided in Appendix B. It was suggested during the pilot study that a card of sponsorship by Baylor University would greatly improve the response rate. Administrators receive so many questionnaires and surveys that a card stating the academic requirement may motivate better participation. The letter and sponsorship card developed and used are provided in Appendices C and D respectively.

The American Hospital Association Guide to Hospitals, 1982 edition, was used as a reference of the directory of all 200-399 bed hospitals in the United States.[4] The number of hospitals counted meeting the acute bed size of 200-399 and accredited by JCAH was 954. 954 surveys were mailed on 29 January 1983 with a suspense of 21 February 1983. A map of the United States was used as provided in Figure 3.

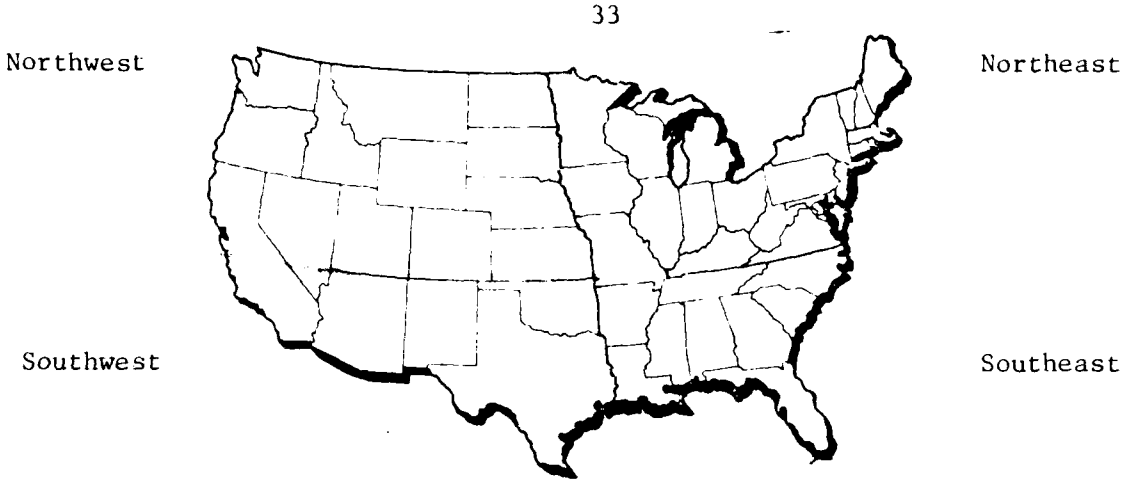


Figure 3. Map of United States Divided into Four Geographic Regions for Nationwide Survey.

The United States was divided into four major geographic regions: Northeast, Southeast, Southwest, and Northwest. The purpose was to find out if one area of the country was different from the rest of the country and if WACH was different from the trend of other hospitals in the region in which it is located.

Nationwide Survey - Return Rates

Based on the sample size determination formula in Figure 1, 504 surveys were required. The return rate for this survey exceeded the requirements in every category.

One of the most remarkable and exciting aspects of the nationwide survey was the return rate. Experts predict approximately a 30-40 percent return on national surveys.[5] Out of 954 surveys mailed throughout the United States, 738 surveys were returned with all questions completed. The return rate for the nationwide survey to hospital administrators was 77.36%. Table 9 provides a breakout of results by geographic region.

Table 9.
Nationwide Survey Return Rates
by Geographic Region

GEOGRAPHIC REGION	NUMBER OF HOSPITALS 200-399 BEDS	SURVEYS RETURNED	SURVEYS REQUIRED	PERCENT RETURN
Northeast	437	342	221	78.26%
Southeast	238	191	125	80.25%
Southwest	155	129	80	83.22%
Northwest	124	76	68	61.29%
TOTALS	954	738	494	77.36%

Nationwide Survey Results - Statistical Analysis

Survey results of the nationwide survey are provided in Table 10 below.

Table 10.
Nationwide Survey of Hospitals in United States
Survey Results

Type Ownership (Question 1)

	NUMBER	PERCENT OF 738
Military	10	1.35%
Non-military	110	4.90%
Non-government --		
Not for Profit	563	76.28%
For Profit	55	7.45%

Location (Question 2)

Northeast	342	46.34%
Southeast	191	25.88%
Southwest	129	17.47%
Northwest	76	10.29%

	NUMBER	PERCENT OF 738
Bed Size (Question 3)		
200-249	180	24.39%
250-299	196	26.55%
300-349	193	26.15%
350-399	169	22.89%
Present Type QA Program (Question 4)		
Committee	206	27.91%
QA Coordinator	240	32.52%
QA Department	68	9.21%
*Combination	224	30.62%
Opinion of Program Type (Question 5)		
Committee	127	17.20%
QA Coordinator	241	32.65%
QA Department	144	19.91%
*Combination	226	30.62%
Effectiveness of Program (Question 6)		
Outstanding	179	24.25%
Good	394	53.38%
Fair	132	17.88%
Poor	33	4.47%
Future Need for QA Department (Question 7)		
Agree	579	78.46%
Disagree	159	21.54%

*Combination - QA Committee with either QA Coord or QA Dept

General

The largest number of hospitals surveyed were not for profit (76.28%). A majority of hospitals was located in the northeast (46.34%). The four categories of hospitals by bed size were nearly equal, with 196 (26.55%) being the largest number for 200-249 bed size and 169 (22.89%) for 350-399 bed size being the smallest. Only 27.91% of hospitals surveyed throughout the United States use the committee process for quality assurance.

While 63.19% of the hospitals surveyed have some type of organizational structure to manage the quality assurance program, most hospitals surveyed (53.38%) feel their program is good. An overwhelming number, 579 (78.45%) of the hospitals surveyed perceive a future need for a quality assurance department to manage the quality assurance program.

Type Ownership

Table 11 provides the Chi Square analysis of type of ownership to type of present quality assurance program. Table 12 shows the Chi Square Analysis of type ownership to presence of either a committee or organization structure for quality assurance. The contingency tables for these analyses are provided in Appendix G.

The Chi Square for perceived need for a quality assurance department is provided in Table 13. A contingency table for this analysis is provided in Appendix G.

Location

The Chi Square analysis of hospital location to present quality assurance program is developed in Table 14. Table 15 provides the Chi Square Analysis of location of hospitals to perceived need for a QA department in the future. Contingency tables for the analysis of location to present and future programs are provided in Appendix H.

TABLE 11
CHI SQUARE ANALYSIS
TYPE OWNERSHIP AND TYPE OF PRESENT QA PROGRAM

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	4	2.8	0.514
1	2	6	7.2	0.200
2	1	26	30.7	0.719
2	2	84	79.3	0.279
3	1	153	157.2	0.112
3	2	410	405.8	0.043
4	1	23	15.4	3.75
4	2	22	39.6	7.82

Chi Squre Statistics for 3 Degrees of Freedom: 13.439

Chi Square Critical Value: 7.815

Conclusion: Heterogeneous

TABLE 12
CHI SQUARE ANALYSIS
TYPE OWNERSHIP AND PRESENCE OF A COMMITTEE
OR AN ORGANIZATIONAL STRUCTURE FOR QA

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	4	2.8	0.514
1	2	6	7.2	0.200
2	1	26	30.7	0.720
2	2	84	79.3	0.280
3	1	153	157.2	0.120
3	2	410	405.8	0.043
4	1	23	15.4	3.75
4	2	32	39.6	1.46

Chi Square Statistics for 3 Degrees of Freedom: 7.086

Chi Square Critical Value: 7.815

Conclusion: Homogeneous

TABLE 13
CHI SQUARE ANALYSIS
TYPE OWNERSHIP AND PERCEIVED NEED
FOR QA DEPT IN 5 - 10 YEARS

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	7	7.8	0.082
1	2	3	2.2	0.291
2	1	82	86.3	0.214
2	2	28	23.7	0.780
3	1	451	441.7	0.196
3	2	112	121.3	0.713
4	1	39	43.2	0.408
4	2	16	11.8	1.495

Chi Square Statistics for 3 Degrees of Freedom: 4.178

Chi Square Critical Value: 7.815

Conclusion: Homogeneous

Table 14.
CHI SQUARE ANALYSIS
LOCATION OF HOSPITALS IN THE UNITED STATES
AND PRESENT QUALITY ASSURANCE PROGRAM

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	108	95.5	1.636
1	2	102	111.2	0.761
1	3	30	31.5	0.071
1	4	102	103.8	0.031
2	1	54	53.3	0.009
2	2	60	62.1	0.071
2	3	23	17.6	1.657
2	3	54	58.0	0.276
3	1	24	36	4.0
3	2	52	42	2.381
3	3	11	11.8	0.054
3	4	42	39.2	0.200
4	1	20	21.2	0.068
4	2	27	24.7	0.068
4	3	4	7	1.286
4	4	26	23.1	0.364

Chi Square Statistics for 9 Degrees of Freedom: 12.933

Chi Square Critical Value: 16.919

Conclusion: Homogeneous

Table 15.
CHI SQUARE ANALYSIS
LOCATION OF HOSPITALS IN UNITED STATES
AND PERCEIVED NEED FOR OA DEPARTMENT
IN THE FUTURE (5-10 YEARS)

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	280	268.3	0.510
1	2	62	73.7	1.883
2	1	149	149.8	0.004
2	2	42	41.2	0.016
3	1	100	101.2	0.014
3	2	29	27.8	0.052
4	1	50	59.6	1.546
4	2	26	16.3	5.772

Chi Square Statistics for 3 Degrees of Freedom: 9.797

Chi Square Critical Value: 7.815

Conclusion: Heterogeneous

Bed Size

Bed size was considered important in considering the need for an organizational structure for quality assurance. Bed size equates to work load and reflects the staffing size and mix to support the health care services. Womack Army Community Hospital is a 247 acute bed hospital that is expandable to 400 beds. Based on this range of potential health services in terms of bed size, information about current and future plans of similar bed size hospitals in the United States is an important factor in considering the need for an organization structure for quality assurance.

In Table 16, the Chi Square Analysis of bed size to present program managed by either committee, QA coordinator, QA department, or combination of committee and organization structure (QA coordinator or department) shows dependence of bed size to type of program. However, in Table 17, Chi Square analysis indicates homogeneity of bed size to either committee or organization structure.

Table 18 shows that bed size to perceived need for QA department in the future being homogeneous to the various hospital bed size categories.

Contingency tables for the Chi Square Analysis of Tables 16-18 are provided in Appendix I.

Table 16.
CHI SQUARE ANALYSIS
BED SIZE OF HOSPITAL AND PRESENT QA PROGRAM
(COMMITTEE, QA COORD, QA DEPT, COMBINATION)

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	57	50.2	0.091
1	2	63	58.5	0.346
1	3	7	16.6	5.552
1	4	53	54.6	0.0469
2	1	59	54.7	0.338
2	2	69	63.7	0.441
2	3	18	18.1	0.0005
2	4	50	59.5	1.517
3	1	52	53.8	0.060
3	2	62	62.8	0.010
3	3	21	17.8	0.575
3	4	58	58.6	0.006
4	1	38	47.2	1.793
4	2	46	55	1.473
4	3	22	15.6	2.626
4	4	63	51.3	2.668

Chi Square Statistics for 9 Degrees of Freedom: 17.543

Chi Square Critical Value: 16.919

Conclusion: Heterogeneous

Table 17.
CHI SQUARE ANALYSIS
BED SIZE OF HOSPITAL AND PRESENT
PROGRAM OF COMMITTEE OR STRUCTURE

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	57	50.2	0.921
1	2	123	129.8	0.356
2	1	59	54.7	0.338
2	2	137	141.3	0.025
3	1	52	53.8	0.060
3	2	141	139.1	0.026
4	1	38	47.2	1.793
4	2	131	121.8	0.0695

Chi Square for 3 Degrees of Freedom: 4.214

Chi Square Critical Value: 7.815

Conclusion: Homogeneous

Table 18.
CHI SQUARE ANALYSIS
BED SIZE AND FUTURE PERCEIVED NEED
FOR ORGANIZATIONAL STRUCTURE FOR QA

I	J	OBSERVED	EXPECTED	CHI SQUARE
1	1	135	141.2	0.272
1	2	45	38.8	0.991
2	1	151	153.8	0.051
2	2	45	42.2	0.186
3	1	155	151.4	0.086
3	2	38	41.6	0.312
4	1	138	132.6	0.219
4	2	31	36.4	0.801

Chi Square Statistic for 3 Degrees of Freedom: 2.918

Chi Square Critical Value: 7.815

Conclusion: Homogeneous

Nationwide Survey - Interpretation

At the 95% level of confidence, hospitals categorized by ownership, location, and bed size are homogeneous in regards to the present type quality assurance program when categorized as either a committee or some type organizational structure. Hospitals are heterogeneous in terms of present quality assurance program categorized as committee, QA coordinator, QA department, or combination of committee plus coordinator and/or department. See Table 18 below. The reason for the difference is that most hospitals have either a committee or some combination of committee with organization structure. Very few have solely a QA coordinator or QA department. Only 9% have a QA department, and only 28% have a QA coordinator.

Hospitals surveyed are homogeneous in every category (ownership, location, and bed size) in regards to the future need for a quality assurance department in the next 5-10 years. 78.5% of all hospitals surveyed indicated a future need for a quality assurance department.

Table 19.
PERCENTAGE DISPLAY OF PRESENT QA PROGRAM

Committee	28%	Committee	28%
QA Coord	33%	Organizational Structure	72%
QA Dept	9%		
Combination	30%		

FOOTNOTES

FOOTNOTES

[1]Donabedian, Avedis, Exploration in Quality Assessment and Monitoring, Ann Arbor Michigan: Health Administration Press, 1982, pp 10-25

[2]Joint Commission on Accreditation Manual, Chicago: JCAH 1983

[3]Dunn, Jack, CEO - VA Hospital, Fayetteville, NC, Interview on Quality Assurance National Survey Instrument

Girone, Mike, CEO - Highsmith Rainey Hospital, Fayetteville, NC, interview on Quality Assurance National Survey Instrument

Hiscott, Donald, CEO - Southeastern General Hospital, Lumberton, NC, Interview on Quality Assurance National Survey Instrument

Pittman, T. M., COL, MSC, Executive Officer, Womack Army Community Hospital, Fort Bragg, NC, Interview on Quality Assurance National Survey Instrument

Welch, Lucky, Intern Administrator, Southeastern General Hospital, Lumberton, NC, Interview on Quality Assurance National Survey Instrument

[4]American Hospital Association Guide to Hospitals, Chicago: American Hospital Association, 1982

[5]Pitts, Robert, "Taking Stock of Your Institution," Health Services Manager, Vol 13, #3, March 1980, pp 3-10

II. CONCLUSIONS AND RECOMMENDATIONS

General

It is concluded from this research that there is a need for a quality assurance organization structure within health care institutions to meet JCAH quality assurance standards.

As a review of the current literature on quality assurance shows, there is no documentation of any assessment of the need for an organization structure to meet the demands of a viable quality assurance program. There is also a lack of discussion of what hospitals are presently doing or plan to do to meet the required quality assurance in terms of organization structure. It is concluded that based on a literature review, this study is the only of its kind presently that reveals what hospitals (200-400 acute bed) nationwide are doing and plan to do toward organizational structure for quality assurance.

Based on the response to the nationwide survey, the interest toward QA is very high. Over 77% of all hospitals surveyed responded to the survey. This rate of response itself is remarkable. It is concluded that the high rate is due to the simplicity of the questionnaire and the importance of QA in hospitals today.

Comparison of WACH to Other Hospitals Surveyed

From an analysis of the results of the staff survey, it is concluded that all of the categories of staff surveyed expressed a lack of awareness to quality assurance. All categories of staff surveyed expressed a need for an organization structure to meet the requirements of quality

assurance. Only 12.2% of the staff surveyed indicated no change to the present program which is managed by the committee process. Approximately 50% of the staff surveyed expressed the need for a quality assurance department, and 38% of the staff expressed the need for a QA coordinator.

WACH has 247 operating beds with expansion up to 400 beds. The normal operating range of beds is between 200-250. Based on the number of operating beds at WACH, it can be compared to nationwide survey results of hospitals in the 200-249 bed category. Over 68% of the 200-249 bed size hospitals surveyed have an organization structure presently for QA. Seventy-five percent of 200-249 bed size hospitals surveyed indicate the future need for a QA department.

The present QA program at WACH is ineffective in providing a daily functional methodology to identify, document, and monitor QA problems. There is evidence of the need for a centralized functional organization structure element for QA.

Nationwide Survey.

Based on the analysis of the nationwide survey, regardless of bed size, location, or ownership, those hospitals surveyed indicated the need for an organization structure for quality assurance. Over 72% of the hospitals surveyed have some type of organization structure. Over 74% of all hospitals surveyed showed the need for a QA department in the next 5-10 years.

The majority of the hospitals were not for profit (76.3%), located in the northeast (46.3%), are 250-299 acute bed size (26.6%), have a QA coordinator (32.5%), and feel the need for a QA department (78.5%).

Recommendations

As a result of literature review, observation of WACH present QA program, staff survey, and nationwide survey, it is recommended that an institutionalized education program be developed to improve the staff's level of awareness toward quality assurance. In order for the program to be both effective and efficient, the staff must be knowledgeable of the JCAH requirements for QA. It is also recommended that a QA coordinator position be established to manage the QA program in combination with the committee process. A proposed listing of responsibilities for the QA coordinator is provided at Appendix J.[1]

As evidenced by the research of Georgopoulos, internal coordination is one of the biggest problems in the hospital organization. A constant challenge for the hospital organization is the ability to interrelate in time and space the myriad of diversified and specialized, but interdependent tasks and activities of its various staff so that their efforts converge toward the solution of work problems and attainment of organizational objectives.[2]

Of critical importance in regards to coordination is that of the quality of care provided. Presently, the committee process at WACH

is unable to provide daily coordination of quality assurance activities. A quality assurance coordinator is recommended as part of the organization structure element. The activities of the coordinator from an organization theory standpoint would deal with timing, sequencing, and regulating the diverse and specialized, but interdependent daily activities in a system of quality assurance. The QA coordinator would work in concert with the committee process and would supplement the committee processs for the daily functional aspects of QA.

It is also recommended that a QA department be developed as part of the organization structure in the next five years. This department could then be the functional structure of the organization to assess, document, and monitor QA problems. The Department could also provide the education required for maintaining a high level of staff awareness to quality assurance.

The quality assurance department would serve as a clearinghouse for all quality assurance information; it would not serve as a decision-making body. The staff in the QA department could provide technical assistance in problem identification and assessment, and prepare quality assurance activity reports for the MCE Committee and Executive Committee. The advantages to this arrangement are that department staff are cross-trained, information is centralized, duplication of staff and committee efforts are minimized, and roles are more clearly defined.[3]

FOOTNOTES

FOOTNOTES

[1]Quality Assurance Guide, Chicago: Joint Commission on Accreditation of Hospitals, 1980, pp 20-40

[2]Georgopoulos, Basil, Hospital Organization Research, Philadelphia: W. B. Saunders Company, 1975, pp 163-167

[3]Quality Assurance Guide, Ibid, pp 40-75

APPENDIX A

STAFF SURVEY INSTRUMENT

QUALITY ASSURANCE (QA)
QUALITY OF CARE--STAFF OPINION SURVEY

This staff opinion survey is provided to get your knowledge and perception of the Quality Assurance Program at WACH. Your honest responses are most appreciated. Please check the appropriate blanks and forward the completed survey to the Admin Resident.

1. I am or work in the following area: PHYSICIAN___ NURSE___ ADMIN___ ALLIED HEALTH___

2. I have read the JCAH Standard on QA. YES___ NO___

3. I have read and understand the Hospital QA Plan. YES___ NO___

4. I have attended a class or seminar of 4 hours or more on QA. YES___ NO___

5. Communication gaps reference problems in patient care exist between nursing, physician, and admin personnel. YES___ NO___ DON'T KNOW___

6. The staff demonstrates a continued willingness and expertise to provide the highest quality of health care. STRONGLY DISAGREE___ DISAGREE___ AGREE___ STRONGLY AGREE___

7. The QA Program here identifies problems and povides methods to resolve and monitor them. YES___ NO___ DON'T KNOW___

8. Most patient complaints are not valid. STRONGLY DISAGREE___ DISAGREE___ AGREE___ STRONGLY AGREE___

9. The incident reporting system is an effective method of identifying significant problems in quality of care. STRONGLY DISAGREE___ DISAGREE___ AGREE___ STRONGLY AGREE___

10. Many medical related incidents which indicate problems go unreported. YES___ NO___ DON'T KNOW___

11. To insure quality of patient care, there needs to be: ___ 1. A QA Dept devoted to the full time identification, documentation, and monitoring of the quality of health care; ___ 2. A QA Coordinator, or ___ 3. No change to present system.

12. The biggest problem here that impacts on the quality of patient care is: _____

_____

_____

13. To me, Quality Assurance means: _____

_____

_____

14. Physicians do not have the time to audit medical records and search for problems in patient care. STRONGLY DISAGREE___ DISAGREE___ AGREE___ STRONGLY AGREE___

15. I think a QA program is needed to insure quality of health care. STRONGLY DISAGREE___ DISAGREE___ AGREE___ STRONGLY AGREE ___

16. The quality of health care provided here is POOR___ FAIR___ GOOD___ EXCELLENT___

17. It is useless to bring problems related to patient care to my boss or the administration because nothing is ever done. STRONGLY DISAGREE___ DISAGREE___ AGREE___ STRONGLY AGREE___.

18. My rater requires that my job performance include the essential elements of the Hospital Quality Assurance Program. YES ___ NO ___

THANK YOU FOR YOUR TIME AND OPINIONS

PLEASE FOLD IN HALF, STAPLE, AND FORWARD TO THE ADMINISTRATIVE RESIDENT

APPENDIX B

NATIONWIDE SURVEY INSTRUMENT

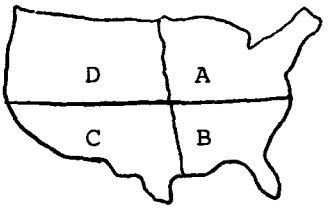
QUALITY ASSURANCE (QA) SURVEY

Please check the appropriate blank(s) and forward by self addressed envelope enclosed.

1. This hospital is best classified as:

A. Government _____: (1) Military _____ (2) NonMilitary _____
B. Non-Government (Not for profit) _____
C. Non-Government (For profit) _____

2. This hospital is located in one of the following four major geographic regions of the United States:



A. _____Northeastern
B. _____Southeastern
C. _____Southwestern
D. _____Northwestern

3. Number of operating/licensed beds in this hospital is:

A. _____ 200-249
B. _____ 250-299
C. _____ 300-349
D. _____ 350-399
E. _____ (Other) Specify _____

4. The Quality Assurance Program is managed by:

A. _____Committee
B. _____Quality Assurance Coordinator
C. _____Quality Assurance Department

5. In my opinion, the best method/process to manage the functional aspects of a viable quality assurance program is by:

A. _____Committee
B. _____Quality Assurance Coordinator
C. _____Quality Assurance Department
D. _____Other. Please Indicate _____

6. In my opinion, in comparing the quality assurance program at this hospital to others, this hospital's quality assurance program is:

A. _____ Outstanding (one of the best, top 10%)
B. _____ Good (among the best, top 25%)
C. _____ Fair (about average, top 50%)
D. _____Fair but needs a great deal of improvement

7. In the next 5 to 10 years, hospitals of this size will have to have an organization structure element such as a QA department in order to meet JCAH standards in QA.

A. _____Strongly Agree
B. _____Agree
C. _____Disagree
D. _____Strongly Disagree

APPENDIX C

LETTER TO CHIEF EXECUTIVE OFFICERS

DEPARTMENT OF THE ARMY
U.S. ARMY MEDICAL DEPARTMENT ACTIVITY
FORT BRAGG, NORTH CAROLINA 28307

HSXC-XO

28 January 1983

SUBJECT: Quality Assurance Survey - Graduate Research

Chief Executive Officer

1. I am conducting a graduate research project for a Masters degree in hospital administration from US Army-Baylor University Program in Health Care Administration. The purpose of the attached survey is twofold: 1) to assess the present and future need for a quality assurance structure within hospitals in the United States to meet the Joint Commission on Accreditation of Hospital standard for Quality Assurance, and 2) to fulfill the academic requirement for a Masters degree in hospital administration. Your response is most appreciated in this academic pursuit.

2. Enclosed is the questionnaire on quality assurance issues being researched. This should not take more than five minutes of your time. Please complete the questionnaire and return it in the envelope provided by 21 February 1983.

3. Once again, thank you for your contribution to the expansion of knowledge. Questions may be referred to the undersigned at (919) 396-2906/4802.

LLEWELLYN E. PIPER
CPT(P), MSC
Administrative Resident

APPENDIX D

NATIONWIDE SURVEY SPONSOR CARD

GRADUATE RESEARCH PROJECT
IN
QUALITY ASSURANCE

SPONSORED BY:

The Graduate School
Baylor University
Waco, Texas

Academy of Health Sciences
US Army
Fort Sam Houston, Texas

APPENDIX E

STAFF SURVEY CONTINGENCY TABLES

HOSPITAL INTERNAL STAFF
SURVEY RESULTS

TOTAL	PHYSICIAN	NURSE	ADMIN	ALLIED HEALTH
278	56	73	89	60

CONTINGENCY TABLE
Question #2 - Read JCAH

	YES	NO	TOTALS
PHYSICIAN	12	44	56
NURSE	35	38	73
ADMIN	29	60	89
ALLIED HEALTH	29	31	60
TOTALS	105	173	278

CONTINGENCY TABLE
Question #3 - Read QA Plan

	YES	NO	TOTALS
PHYSICIAN	18	38	56
NURSE	30	43	73
ADMIN	27	62	89
ALLIED HEALTH	23	37	60
TOTALS	98	180	278

CONTINGENCY TABLE
Question #4 - Class or Seminar

	YES	NO	TOTALS
PHYSICIAN	10	46	56
NURSE	18	55	73
ADMIN	10	79	89
ALLIED HEALTH	8	52	60
TOTALS	46	232	278

CONTINGENCY TABLE
Question #5 - Communication Gaps Exist

	YES	NO	DON'T KNOW	TOTALS
PHYSICIAN	34	8	14	56
NURSE	49	7	17	73
ADMIN	40	8	41	89
ALLIED HEALTH	39	3	18	60
TOTALS	162	26	90	278

CONTINGENCY TABLE
Question #6 - Staff Shows Willingness

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	TOTALS
PHYSICIAN	0	2	30	24	56
NURSE	4	7	45	17	73
ADMIN	3	16	57	13	89
ALLIED HEALTH	3	7	40	10	60
TOTAL	10	32	172	64	278

CONTINGENCY TABLE
Question #7 - QA Program Identifies/Resolves - Effectiveness

	YES	NO	DON'T KNOW	TOTALS
PHYSICIAN	22	2	32	56
NURSE	29	13	32	73
ADMIN	20	5	64	89
ALLIED HEALTH	14	7	39	60
TOTALS	85	27	167	278

CONTINGENCY TABLE
Question #8 - Patient Complaints Not Valid

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	TOTALS
PHYSICIAN	2	38	14	2	56
NURSE	7	44	21	1	73
ADMIN	7	55	24	3	89
ALLIED HEALTH	5	32	21	2	60
TOTALS	21	169	80	8	278

CONTINGENCY TABLE
Question #9 - Incident Reporting Effective

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	TOTALS
PHYSICIAN	4	18	30	4	56
NURSE	7	19	45	2	73
ADMIN	2	26	53	8	89
ALLIED HEALTH	4	13	41	2	60
TOTALS	17	76	169	16	278

CONTINGENCY TABLE
Question #10 - Many Incidents Not Reported

	YES	NO	DON'T KNOW	TOTALS
PHYSICIAN	30	4	22	56
NURSE	42	5	26	73
ADMIN	36	6	47	89
ALLIED HEALTH	29	2	29	60
TOTALS	137	17	124	278

CONTINGENCY TABLE
Question #11 - Need for QA Structure

	QA DEPT	QA COORD	NO CHANGE	TOTALS
PHYSICIAN	18	28	10	56
NURSE	41	26	6	73
ADMIN	49	32	8	89
ALLIED HEALTH	30	20	10	60
TOTALS	138	106	34	278

CONTINGENCY TABLE
Question #12 - Biggest Problem

	STAFF	COMMO	MGMT	TOTALS
PHYSICIAN	42	8	6	56
NURSE	38	15	20	73
ADMIN	30	17	42	89
ALLIED HEALTH	29	27	4	60
TOTALS	139	67	72	278

CONTINGENCY TABLE
Question #13 - QA Means

	STATS	MGMT	DON'T KNOW	TOTALS
PHYSICIAN	44	2	10	56
NURSE	16	50	7	73
ADMIN	29	33	27	89
ALLIED HEALTH	30	20	10	60
TOTALS	119	105	54	278

CONTINGENCY TABLE
Question #14 - Physician's Don't Have Time to Audit

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	TOTALS
PHYSICIAN	6	34	14	2	56
NURSE	13	29	26	5	73
ADMIN	10	25	40	14	89
ALLIED HEALTH	15	14	23	8	60
TOTALS	44	102	103	29	278

CONTINGENCY TABLE
Question #15 - Need for QA Program

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	TOTALS
PHYSICIAN	2	6	34	14	56
NURSE	5	5	43	20	73
ADMIN	4	3	48	34	89
ALLIED HEALTH	2	2	40	16	60
TOTALS	13	16	165	84	278

CONTINGENCY TABLE
Question #16 - Quality of Care

	POOR	FAIR	GOOD	EXCELLENT	TOTALS
PHYSICIAN	0	8	38	10	56
NURSE	2	20	44	7	73
ADMIN	3	25	55	6	89
ALLIED HEALTH	3	14	37	6	60
TOTALS	8	67	174	29	278

CONTINGENCY TABLE
Question #17 - Useless to Bring Problems Up

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE	TOTALS
PHYSICIAN	10	36	8	2	56
NURSE	22	35	11	5	73
ADMIN	19	44	17	9	89
ALLIED HEALTH	28	20	8	4	60
TOTALS	79	135	44	20	278

CONTINGENCY TABLE
Question #18 - QA Part of Job Performance

	YES	NO	TOTALS
PHYSICIAN	36	20	56
NURSE	53	20	73
ADMIN	36	53	89
ALLIED HEALTH	43	17	60
TOTALS	168	110	278

APPENDIX F

STAFF SURVEY ANALYSIS OF FOUR CRITICAL QUESTIONS

CONTINGENCY TABLE
Question #4

Staff Category	Attend Class or Seminar		
	YES	NO	TOTAL
PHYSICIAN	10 (9.3)	46 (46.7)	56
NURSE	18 (12.1)	55 (60.9)	73
ADMINISTRATIVE	10 (14.7)	79 (74.3)	89
ALLIED HEALTH	8 (9.9)	52 (50.1)	60
TOTAL	46	232	278

$$X^2 = \sum \frac{(O_i - E_i)}{E_i}$$

$X^2 = 5.76$ df = 3 $X^2 = 7.815$

CONTINGENCY TABLE
Question #7

Staff Category	QA Program Effective			
	YES	NO	DON'T KNOW	TOTAL
PHYSICIAN	22 (17.1)	2 (5.2)	23 (33.7)	56
NURSE	29 (22.3)	13 (6.8)	52 (43.9)	73
ADMINISTRATIVE	20 (27.2)	5 (8.3)	64 (53.5)	89
ALLIED HEALTH	14 (18.3)	7 (5.6)	39 (36.0)	60
TOTAL	85	26	167	278

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 19.365$ df = 6 $X^2 = 12.92$

CONTINGENCY TABLE
Question #11

Staff Category	Need for QA Structure/Type of QA Structure Needed			
	QA DEPT	QA COORD	NO CHANGE	TOTAL
PHYSICIAN	18 (27.8)	28 (21.4)	10 (6.8)	56
NURSE	41 (36.2)	26 (27.8)	6 (8.9)	73
ADMINISTRATIVE	49 (44.2)	32 (33.9)	8 (10.9)	89
ALLIED HEALTH	30 (29.8)	20 (22.9)	10 (7.3)	60
TOTAL	138	106	34	278

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 11.453$ df - 6.95 $X^2 = 12.5$

CONTINGENCY TABLE
Question #15

Staff Category	Need for QA Program		
	*DISAGREE	*AGREE	TOTAL
PHYSICIAN	8 (5.8)	48 (50.2)	56
NURSE	10 (7.6)	63 (65.4)	73
ADMINISTRATIVE	7 (9.3)	82 (79.8)	89
ALLIED HEALTH	4 (5.8)	56 (50.2)	56
TOTAL	29	249	278

*NOTE: Strongly Disagree and Disagree were combined and Strongly and Agree were combined

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 3.633$ df = 3 $X^2 = 8/915$

APPENDIX G

NATIONWIDE SURVEY ANALYSIS OF OWNERSHIP

CONTINGENCY TABLE
Hospital CEO Survey
Chi Square Analysis
Ownership and Type of Present QA Program

Ownership	Present QA Program		
	COMMITTEE	ORGANIZATION STRUCTURE	TOTAL
Government - Military	4 (2.8)	6 (7.2)	10
Government - Nonmilitary	26 (30.7)	84 (79.3)	110
Not for Profit	153 (157.2)	410 (405.8)	563
For Profit	23 (15.4)	22 (39.6)	55
TOTAL	206	532	738

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 13.439$ df = 3 $X^2 = 7.815$

CONTINGENCY TABLE
Chi Square Analysis
Ownership and Committee or Structure

Ownership	Committee or Structure		
	COMMITTEE	STRUCTURE	TOTAL
Government - Military	4 (2.8)	6 (7.2)	10
Government - Nonmilitary	26 (30.7)	84 (79.3)	110
Not for Profit	153 (157.2)	410 (405.8)	563
For Profit	23 (15.4)	32 (39.6)	55
TOTAL	206	532	738

$$X^2 = \sum \frac{(O_1 - E_1)^2}{E_1}$$

$X^2 = 7.0855$ df = 3 $X^2 = 7.815$

CONTINGENCY TABLE
Chi Square Analysis
Type Ownership and Perceived Future
Need for QA Department

Type Ownership	Need for QA Department		
	AGREE	DISAGREE	TOTAL
Government - Military	7 (7.8)	3 (2.2)	10
Government - Nonmilitary	82 (86.3)	28 (23.7)	110
Not for Profit	451 (441.7)	112 (121.3)	563
For Profit	39 (43.2)	16 (11.8)	55
TOTAL	579	159	738

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 4.178$ $\quad df = 3$ $\quad X^2 = 7.815$

APPENDIX H

NATIONWIDE SURVEY ANALYSIS OF LOCATION

CONTINGENCY TABLE
Chi Square Analysis
Location in United States and
Perceived Need for Future QA Dept
in 5-10 Years

Location	Perceived Need for Future QA Dept		
	AGREE	DISAGREE	TOTAL
Northeast	280 (268.3)	62 (73.7)	342
Southeast	149 (149.8)	42 (41.2)	191
Southwest	100 (101.2)	29 (27.8)	129
Northwest	50 (59.6)	26 (16.3)	76
TOTALS	579	159	738

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 9.797$ $\quad df = 3$ $\quad X^2 = 7.815$

CONTINGENCY TABLE
Chi Square Analysis
Location of Hospital and Present Program

Location	Present Program				
	COMMITTEE	QA COORD	QA DEPT	COMB	TOTAL
Northeast	108 (95.5)	102 (111.2)	30 (31.5)	102 (103.8)	342
Southeast	54 (53.3)	60 (62.1)	23 (17.6)	54 (58.0)	191
Southwest	24 (36.0)	52 (42.0)	11 (11.8)	42 (39.2)	129
Northwest	20 (21.2)	26 (24.7)	4 (7.0)	26 (23.1)	76
TOTAL	206	240	68	224	738

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 12.933$ df = 9 $X^2 = 16.919$

APPENDIX I

NATIONWIDE SURVEY
ANALYSIS OF BED SIZE

CONTINGENCY TABLE
Chi Square Analysis
Bed Size and Committee or Structure
in Present Program

Bed Size	QA Program		
	COMMITTEE	QA STRUCTURE	TOTAL
200-249	57 (50.2)	123 (129.8)	180
250-299	59 (54.7)	137 (141.3)	196
300-349	52 (53.8)	141 (139.1)	193
350-399	38 (47.2)	131 (121.8)	169
TOTAL	206	532	738

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 4.214$ df = 3 $X^2 = 7.815$

CONTINGENCY TABLE
Chi Square Analysis
Bed Size and Future Need for QA Structure

Bed Size	Need for QA Structure		
	AGREE	DISAGREE	TOTAL
200-249	135 (141.2)	45 (38.8)	180
250-299	151 (453.8)	45 (42.2)	196
300-349	155 (151.4)	38 (41.6)	193
350-399	138 (132.6)	31 (36.4)	169
TOTAL	579	159	738

$$X^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = 2.918$ df = 3 $X^2 = 7.815$

CONTINGENCY TABLE
Chi Square Analysis
Bed Size of Hospitals and Present
Quality Assurance Program

Bed Size	Present Quality Assurance Program				
	COMMITTEE	QA COORD	QA DEPT	COMB	TOTAL
200-249	57 (50.2)	63 (58.5)	7 (16.6)	53 (54.6)	180
250-299	59 (54.7)	69 (63.7)	18 (18.1)	50 (59.5)	196
300-349	52 (53.8)	62 (62.8)	21 (17.8)	58 (58.6)	193
350-399	38 (47.2)	46 (55.0)	22 (15.6)	63 (51.3)	169
TOTAL	206	240	68	224	738

$$X^2 = \sum \frac{(O_1 - E_1)^2}{E_1}$$

$X^2 = 17.543$ df = 9 $X^2 = 16.919$

APPENDIX J

QA COORDINATOR RESPONSIBILITIES

QA COORDINATOR RESPONSIBILITIES

1. Assisting committees and individuals in identifying known or perceived problems for study.

2. Setting priorities for the study of problems.

3. Reviewing action plans developed by the committee and departments.

4. Implementing actions approved by the medical staff executive committee or administration.

5. Communicating appropriate information from studies and data sources to other committees, departments, and persons affected by the study.

6. Managing the time and resources to conduct quality assurance activities that are integrated and not duplicative.

7. Executing the Memorandum of Understanding between the hospital and the PSRO.

8. Synthesizing problem data from multiple sources.

9. Reviewing the reports and minutes of committees, departments, and individuals.

10. Reviewing problems that are likely to have an impact on the quality of care or on service rendered to patients.

11. Directing appropriate committees and individuals to conduct further investigation of specific topics and to monitor corrective action to sustain problem resolution.

12. Providing feedback to committees and individuals involved in quality assurance.

13. Establishing or recommending priorities for study of problems or problem resolution.

14. Reporting committee findings and results.

15. Conducting an annual evaluation of the quality assurance program.

16. Directing action for problem resolution (or assuring that this is appropriately delegated).

17. Monitoring resolution of problems.

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